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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/684,371	10/05/2000	Rodney S. Tucker	10001757-1	2577

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AGILENT TECHNOLOGIES
Legal Department, 51U-PD
Intellectual Property Administration
P.O. Box 58043
Santa Clara, CA 95052-8043

EXAMINER

KIM, DAVID S

ART UNIT PAPER NUMBER

2633

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/684,371

Applicant(s)

TUCKER ET AL.

Examiner

David S. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2004 and 03 September 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 5, 6, 9-15, 19, 20 and 23-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 16-18, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 2-4, 7 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03 September 04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. Applicant's request for reconsideration of the finality of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Specification

2. Applicant's compliance with the objections to the specification in the previous Office Action (mailed 02 July 2004) is noted and appreciated. Applicant's amendment to the specification overcame the previous objections. Accordingly, the previous objections are withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
5. **Claims 1, 16-17, and 21-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Graves et al. (U.S. Patent No. 6,115,162) and Tolson (U.S. Patent No. 6,208,850 B1).

Regarding claim 1, the admitted prior art discloses an optical heterodyne detection system (Fig. 1) comprising the first optical path, the second optical path, the optical combining means, the third optical path, and the photodetector.

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The admitted prior does not expressly disclose the optical pre-selector and the means for adjusting said optical pre-selector passband. However, optical pre-selectors are well known and common in the field of heterodyne systems. Graves et al. teaches such a pre-selector (Graves et al., filter 62 in Fig. 4). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include an optical pre-selector in the heterodyne system of the admitted prior art. One of ordinary skill in the art would have been motivated to do this to isolate the frequency band of interest (Graves et al., col. 2, line 67 – col. 3, line 1). Additionally, means for adjusting the passband of pre-selectors is also well known and common in the field of heterodyne systems. Tolson teaches such means (Tolson, Fig. 1). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate means for adjusting the passband of the pre-selector of the admitted prior art in view of Graves et al. One of ordinary skill in the art would have been motivated to do this the selectivity of such pre-selectors largely determines the performance of the system (Tolson, col. 1, lines 26-28). A minimum bandwidth for the pre-selector, consistent with adequate reception of the wanted signal would enhance receiver performance considerably (Tolson, col. 1, lines 28-31). The teachings of Tolson enable such a minimum bandwidth (Tolson, col. 1, lines 35-38).

Regarding claim 16, claim 16 is a method claim that corresponds to system claim 1. Therefore, the recited means in system claim 1 read on the corresponding steps in method claim 16.

Regarding claim 17, the admitted prior art in view of Graves et al. and Tolson discloses:

The method of claim 16 further including a step of modulating (Tolson, phase change imparted by bandpass filter in abstract) at least some portion of said swept local oscillator signal.

Regarding claim 21, the admitted prior art in view of Graves et al. and Tolson discloses:

The method of claim 17 wherein said step of filtering is a step of filtering said input signal to generate a filtered input signal and wherein said step of combining is a step of combining said filtered input signal with said swept local oscillator signal to generate said combined optical signal (Graves et al., location of filter 62 in Fig. 4; Tolson, location of filter 3 in Fig. 1).

Regarding claim 22, the admitted prior art in view of Graves et al. and Tolson discloses the tapping (Tolson, note coupler 8 in Fig. 1), the modulating (Tolson, Fig. 1, abstract), and the filtering

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(Graves et al., filter 62 in Fig. 4; Tolson, filter 3 in Fig. 1). The admitted prior art in view of Graves et al. and Tolson does not expressly disclose the delaying. The delaying of signals of *any* kind is well known and common throughout the art. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include the delaying. One of ordinary skill in the art would have been motivated to do this to provide the common and conventional functionality of precise synchronization.

6. **Claim 18** is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Graves et al. and Tolson as applied to claim 17 above, and further in view of Sues (U.S. Patent No. 3,641,515).

Regarding claim 18, the admitted prior art in view of Graves et al. and Tolson does not expressly disclose:

The method of claim 17 further including a step of synchronizing said step of modulating to coincide with a step of measuring said portion of said swept local oscillator signal after said portion of said swept local oscillator signal has been filtered.

However, synchronization of various elements is standard practice in a myriad of detection systems, including heterodyne ones. Sues provides an example of such synchronization (e.g., clock 8 in Figure). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to further include a step of synchronizing the various steps of the admitted prior art in view of Graves et al. and Tolson. One of ordinary skill in the art would have been motivated to do this so that the steps are performed in proper sequence.

Additionally, at the time the invention was made, it would have been obvious to one of ordinary skill in the art to arrange said step of synchronizing such that said step of modulating coincides with a step of measuring said portion of said swept local oscillator signal after said portion of said swept local oscillator signal has been filtered. One of ordinary skill in the art would have been motivated to do this since the step of modulating of the admitted prior in view of Graves et al. and Tolson imparts a phase change (Tolson, col. 2, l. 9-14) that must be detected in the phase detector (Tolson, col. 2, l. 18-21) at the proper time. That is, this phase change only occurs *after* a portion of the swept local oscillator (Tolson, breakthrough portion in abstract) passes through a filter (Tolson, filter 3). Thus, this phase change can

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only be measured and detected *after* this portion of the swept local oscillator passes through this filter.

Accordingly, a proper step of synchronizing would ensure this sequence.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. **Claims 1, 16-17, and 21-22** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 7 and 9 of Baney et al. (U.S. Patent No. 6,535,289 B1) in view of Tolson.

Regarding claim 1, notice that claim 1 of Baney et al. employs the same language to disclose the corresponding limitations in Applicant's claim 1. Claim 1 of Baney et al. only lacks the "means for adjusting" limitation. In the treatment of claim 1 under 35 U.S.C. 103(a) above, Tolson was applied to address this "means for adjusting" limitation. Similarly, Tolson is applied here to address this same limitation.

Regarding claim 16, notice that claim 7 of Baney et al. employs the same language to disclose the corresponding limitations in Applicant's claim 16. Claim 7 of Baney et al. only lacks the "adjusting said filtering" limitation. In the treatment of claim 1 under double patenting above, Tolson was applied to address a "means for adjusting" limitation, which corresponds to this "adjusting said filtering" limitation. Similarly, Tolson is applied here to address this corresponding limitation.

Regarding claim 17, the claims of Baney et al. in view of Tolson disclose:

The method of claim 16 further including a step of modulating (Tolson, phase change imparted by bandpass filter in abstract) at least some portion of said swept local oscillator signal.

Regarding claim 21, the claims of Baney et al. in view of Tolson disclose:

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The method of claim 17 wherein said step of filtering is a step of filtering said input signal to generate a filtered input signal and wherein said step of combining is a step of combining said filtered input signal with said swept local oscillator signal to generate said combined optical signal (Baney et al., claim 9; Tolson, location of filter 3 in Fig. 1).

Regarding claim 22, claim 7 of Baney et al. in view of Tolson discloses the tapping (Tolson, note coupler 8 in Fig. 1), the modulating (Tolson, Fig. 1, abstract), and the filtering (Tolson, filter 3 in Fig. 1). Claim 7 of Baney et al. in view of Tolson does not expressly disclose the delaying. The delaying of signals of *any* kind is well known and common throughout the art. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include the delaying. One of ordinary skill in the art would have been motivated to do this to provide the common and conventional functionality of precise synchronization.

9. **Claim 18** is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of Baney et al. in view of Tolson as applied to claim 17 above, and further in view of Sues.

Regarding claim 18, notice that Sues was applied to address the limitations introduced by claim 18 in the treatment of claim 18 under 35 U.S.C. 103(a) above. Similarly, Sues is applied here to address these same limitations.

Allowable Subject Matter

10. **Claims 2-4 and 7-8** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

11. Applicant's arguments, see p. 3-5, section II-A, filed on 01 September 2004, with respect to claim 2, have been fully considered and are persuasive. The rejection of 02 July 2004 is withdrawn. Applicant also provided arguments regarding claim 4. However, claim 4 depends on claim 2. Since the rejection of claim 2 is withdrawn, the rejection of claim 4 is also withdrawn. Accordingly, Applicant's arguments regarding claim 4 are moot.

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12. Applicant's arguments, filed on 01 September 2004, with respect to claim 17, have been fully considered but they are not persuasive. Applicant argues that remarks provided with regard to claim 2 apply also to claim 17. Applicant's remarks regarding claim 2 rely on the language of claim 2 that suggests "a phase modulator that is separate from an optical pre-selector" (01 September 2004, p. 4-5, bridging paragraph). However, claim 17 is broader than claim 2; the language of claim 17 does not teach or suggest "a phase modulator that is separate from an optical pre-selector." Accordingly, Applicant's arguments regarding claim 17 are not persuasive.

13. Applicant's arguments, filed on 01 September 2004, with respect to claim 18, have been considered but are moot in view of the new ground(s) of rejection. Notice the application of newly discovered references to Sues.

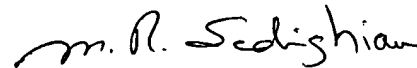
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Kim whose telephone number is 571-272-3033. The examiner can normally be reached on Mon.-Fri. 9 AM to 5 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DSK


M. R. SEDIGHIAN
PRIMARY EXAMINER